U.S. Department
of Transportation
Federal Highway
Administration

LTPP Seasonal Monitoring Program

Site Monitoring Suspension
Status Report
Section 893015
Trois Rivieres, Quebec

Report No. FHWA-TS-98-89-01

January 1998

SEASONAL MONITORING PROGRAM SUSPENSION STATUS REPORT
QUEBEC SECTION 893015

I. INTRODUCTION

Seasonal monitoring equipment was initially installed at site 893015 on Route 40 in Trois Rivieres, Quebec in September 1993 and was used to collect data continuously from September 30, 1993 to June 13, 1995 (Round 1), and from September 12, 1996 to November 6, 1997 (Round 2). On that date, LTPP data collection was suspended. The site was not closed-out in the normal fashion as limited monitoring activity by the Province of Quebec (see attached memorandum dated November 14, 1997 from Mr. Brandt Henderson) will continue. This data collection activity will consist of downloading the ONSITE datalogger - air temperature data, rainfall data and thermistor probe data (pavement and soil temperatures). Information as well as training has been provided to MTQ personnel regarding their data collection activities. Similar types of data was collected by MTQ personnel between Rounds 1 and 2 of NARO data collection efforts. See Table 1 for a summary of the Round 2 seasonal data collected.

This report entitled "SMP Site Monitoring Suspension Status Report" details the close-out preparation activities, site specific conditions, and provides information pertinent to seasonal site 893015.

II. CLOSE-OUT PREPARATION ACTIVITIES

The close-out preparation activities at site 893015 with the exception of a manual distress survey were conducted during the final site visit of Round 2 on November 6, 1997. A manual distress survey of the entire section was conducted on the September 23, 1997 site visit. The site markings did not need to be refreshed. Two sets of FWD tests were completed. One set of elevations, joint opening measurements, joint faulting measurements and a distress survey of the instrumentation area were obtained. The trench to the instrument hole/instrument hole area is considered to be in good condition. Water table measurements and manual resistivity measurements (2 and 4 point) were performed in the morning and afternoon. The ONSITE datalogger was downloaded. Two sets of TDR traces and resistance voltages were extracted by the mobile datalogger. The instrumentation area was cleaned and sealed as required. The temperature holes and snap ring holes were cleaned and sealed with a silicone joint sealant. One snap ring was replaced.

The tipping bucket was calibrated. After the last piezometer reading was recorded the pipe was cleaned and sealed with grease. The access cover and seat were cleaned and lubricated before being covered and brought up to grade with native soil.

The Profilometer survey corresponding to the close out was conducted on October 22, 1997.

All the necessary close-out activities were completed on November 6, 1997. All the equipment remains at the site. ONSITE data collection by the Quebec Ministry of Transportation will continue in 1997/98.

III. SPECIAL SITE CONDITIONS

The installation of site 893015 followed the "LTPP Seasonal Monitoring Program Installation and Data Collection Guidelines" closely. There were no irregularities associated with the installation of this site. During the installation of the piezometer/benchmark and the installation of the instrumentation, water was encountered approximately 2m below the surface where the auger went from the sandy fill material into the underlying muskeg (a type of bog or marsh containing thick layers of vegetation which for the most part is saturated with water).

IV. SUPPLEMENTAL INFORMATION

Figure 1 shows the locations of the installed instrumentation at the site. The instrumentation hole is at Station 0-10 and the piezometer is at Station 1+00. Table 2 gives the elevations of the portion of test section 893015 that was used for elevation measurements. All offsets are measured from the outside pavement edge.

At the time of close-out, MRC #1 sensor was not functioning. This sensor had malfunctioned at the time Round 1 data collection activities were completed. A plot of the erroneous MRC #1 sensor is not provided because the temperature values are off a plotable scale. Other than the above, there were no unresolved problems with any of the other sensors at the time Round 2 data collection activities were completed. The plots for ONSFIELD, MOBFIELD and SMPCHECK follow expected trends and produce expected values.

ITX Stanley

TECHNICAL MEMORANDUM

TO:	Aramis Lopez Gonzalo Rada, Gary Elkins	FHWA/LTPP PCS/LAW
FROM:	Brandt Henderson	ITXSL/NARO
DATE:	14 November 1997	
REFERENCE:	**LTPP SEASONAL - AGENCY CONTINUATION** **FILE: 50451317 - 16.02** 12.05	

The Ministry of Transportation of the Province of Quebec is continuing the Onsite data collection at the seasonal site 893015 in Trois Rivieres, Quebec. Our last round two visit was on November 06, 1997, at which time the climatic instrumentation was calibrated and the site was set-up for agency Onsite data collection. Gilles Brillant of the Quebec Ministry of Transportation was present at the site to get familiarized with the collection of Onsite data and the general maintenance of the site.

Brandt Henderson
Manager, Field & Data Operations

cc: E. Lesswing
W. Bellinger

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TABLE 1:
SUMMARY OF ROUND TWO NORTHERN LOOP SMP DATA COLLECTION TO DATE

Agency Code [8 9]
LTPP Section I.D. [3 0 1 5]
Location Trois Rivieres, Quebec

Test Date dd/mm/yy	Visit Ident./ Code	ONSITE Data			MOBILE Data		Manual Data								FWD Data				Distress Data		Profile Data		Comments
		Pav Temp.	Ambient Temp.	Rainfall	Moisture (TDR)	Frost Depth (Resist.)	Backup Pav. Temp.	Backup Moisture (TDR)	Frost Depth 2 - point	Frost Depth 4 - point	Water Table	Surface Elev.	Joint Open.	Joint Fault.	Surface Layer Temp.	No. of Cycles/Visit OWP	ML	PE	Manual	PASCO	Profiler	Dipstick	
07-Aug-96	A	A	A	A																			Agency collected "off-years" data from 12/8/95 - 8/7/96
12-Sep-96	B	X	X	X	X	X			X	X	X	X		X	X	1	1	1					Re-commission
19-Nov-96	C	X	X	X	X	X			X	X	X	X	X	X	X	1	1	1	X		18-Nov-96		Solar Panel Installed
17-Dec-96	D	X	X	X	X	X			X	X	X	X	X	X	X	2	2	2			21-Jan-97		
28-Jan-97	A	X	X	X	X	X																	no FWD Data due to weather
18-Feb-97	B	X	X	X	X	X			X	X	X	X	X	X	X	2	2	2			20-Feb-97		
20-Mar-97	C	X	X	X	X	X							X	X	X	2	2	2					
01-Apr-97	D								X	X	X										03-Apr-97		no ONS/MOB data due to dual FWD mobilization no FWD Data due to traffic control
29-Apr-97	E	X	X	X	X	X			X	X	X	X	X	X	X	1	1	1					
20-May-97	F	X	X	X	X	X			X	X	X			X	X	1	1	1	X		16-Jul-97		re-install snap rings
17-Jun-97	G	X	X	X	X	X					X		X	X	X	2	2	2					
22-Jul-97	H	X	X	X	X	X			X	X	X		X	X	X	2	2	2					
19-Aug-97	I				X	X					X		X	X	X	2	2	2					
23-Sep-97	J	X	X	X	X	X					X		X	X	X	2	2	2	X		22-Oct-97		
06-Nov-97	K	X	X	X	X	X			X	X	X	X	X	X	X	2	2	2					Close-out to Level 1

Table 2. Surface Elevation Measurements

LTPP Seasonal Monitoring Study	State Code	[89]
Surface Elevation Measurements	Test Section Number	[3015]

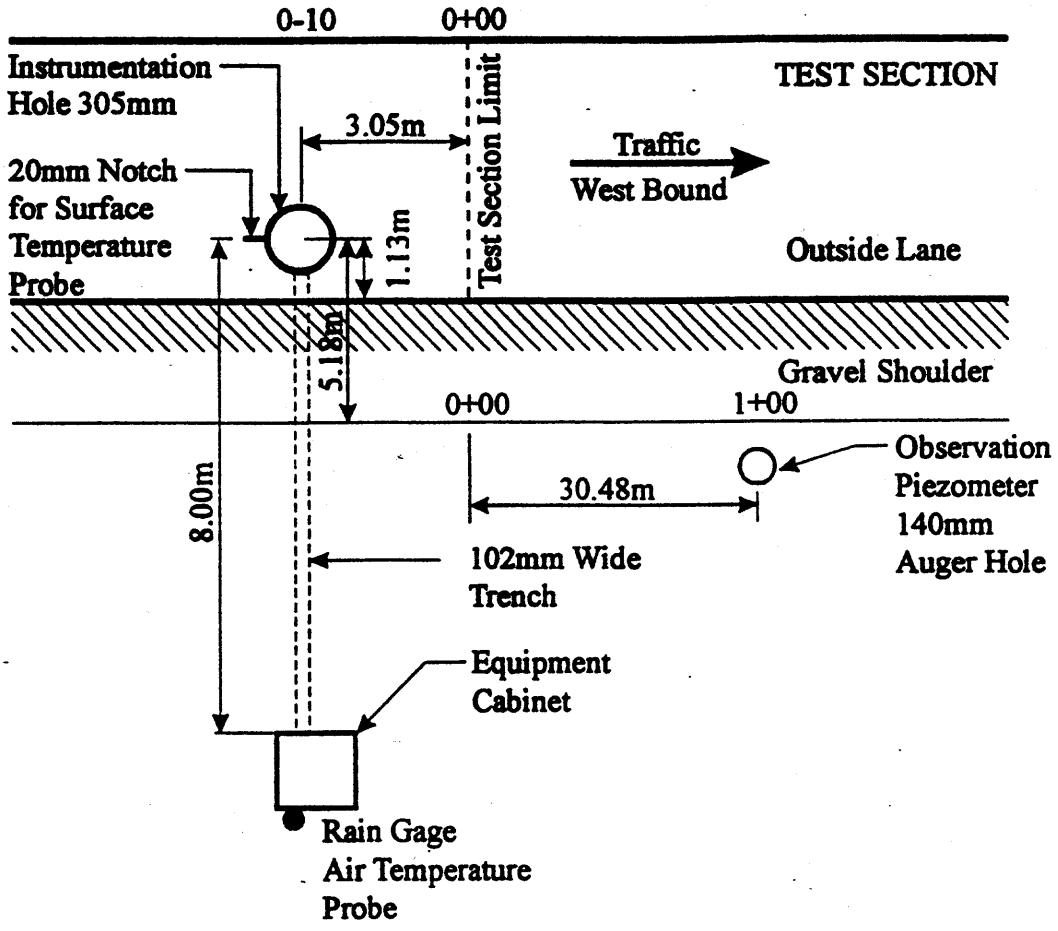
Survey Date	November 06, 1997
Surveyed By	DS
Surface Type	PCC
Benchmark	Observation Piezometer - 1.000 meters - assumed

STATION	PE m offset 0.30m	ML m offset 1.83m	ILE m offset 3.35m
0-20	1.4250	1.4650	1.4900
0-10	1.4350	1.4725	1.4975
0+00	1.4375	1.4750	1.5000
0+40	1.4625	1.4975 *	1.5225
0+50	1.4725	1.5050	1.5300
0+60	1.4700	1.5050	1.5300
0+80	1.4775	1.5100 *	1.5375
0+90	1.4875	1.5175	1.5425
1+00	1.4875	1.5175	1.5450
1+20	1.4950	1.5275	1.5625
1+30	1.5000	1.5325	1.5650
1+40	1.5050	1.5425	1.5725
1+60	1.5200	1.5475 *	1.5875
1+70	1.5275	1.5600	1.5900
1+80	1.5300	1.5650	1.5975

PE	Outer Slab Edge
ML	Mid Slab
ILE	Inner Slab Edge

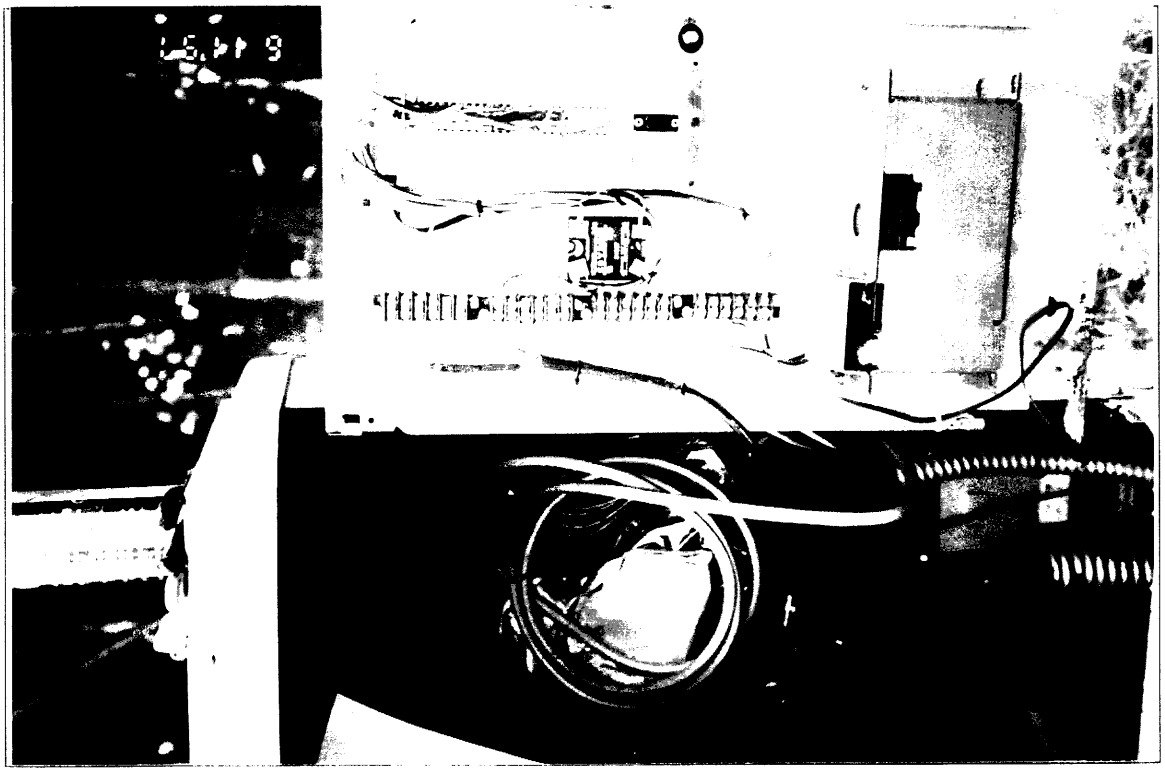
Note: Offsets are measured from the PCC/Gravel interface at the shoulder.

* - Elevation taken next to the AC patch.

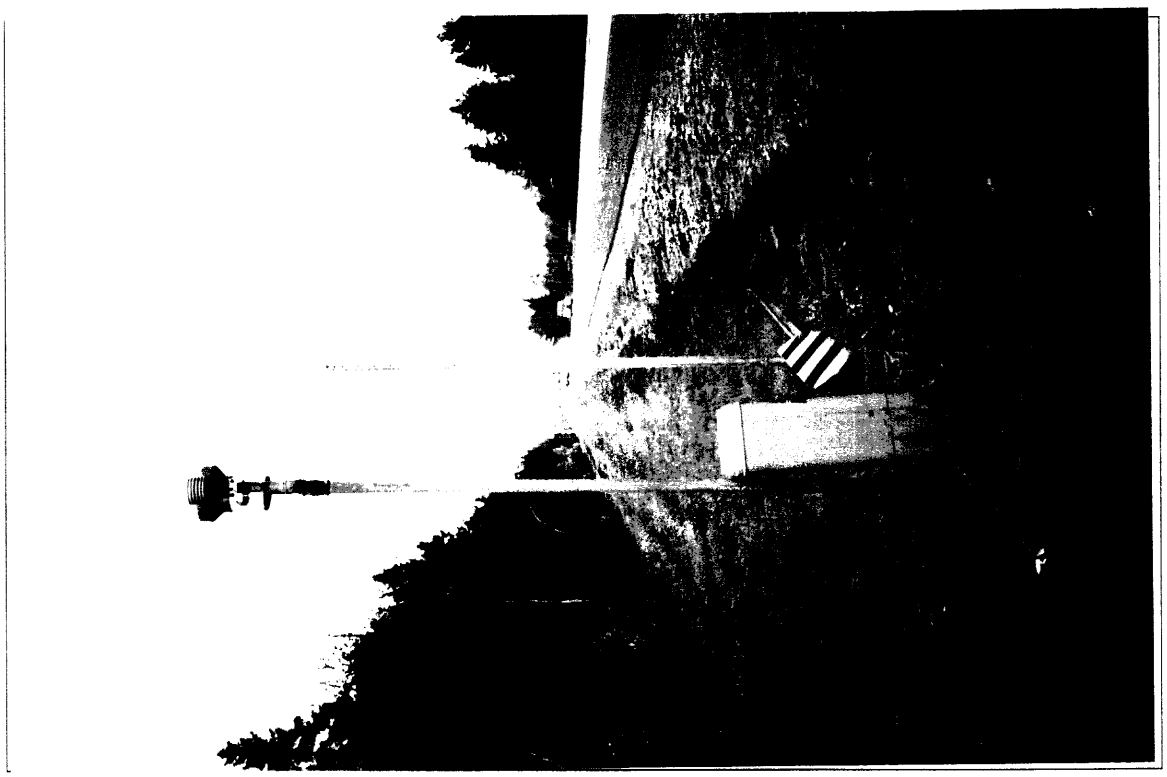


- Height of Air Temperature Probe (center): 3.43m
- Height of Tipping Bucket Rain Gage (center): 3.35m
- Total Depth of Piezometer: 4.29m
- Distance of Piezometer Below Ground Level: 254mm

Figure 1. Location for Seasonal Monitoring Instrumentation Installed at GPS 893015



Inside Equipment Cabinet, Seasonal Site 893015 - November 1997 after Round 2 Data Collection Activities were completed



Equipment Cabinet, Solar Panel, Instrument Pole, Seasonal Site 893015 -November 1997, after Round 2 Data Collection Activities were completed